IOP Conference Series: Earth and Environmental Science 2018 vol.107 N1

Small catchments DEM creation using Unmanned Aerial Vehicles

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Abstract

© Published under licence by IOP Publishing Ltd. Digital elevation models (DEM) are an important source of information on the terrain, allowing researchers to evaluate various exogenous processes. The higher the accuracy of DEM the better the level of the work possible. An important source of data for the construction of DEMs are point clouds obtained with terrestrial laser scanning (TLS) and unmanned aerial vehicles (UAV). In this paper, we present the results of constructing a DEM on small catchments using UAVs. Estimation of the UAV DEM showed comparable accuracy with the TLS if real time kinematic Global Positioning System (RTK-GPS) ground control points (GCPs) and check points (CPs) were used. In this case, the main source of errors in the construction of DEMs are the errors in the referencing of survey results.

http://dx.doi.org/10.1088/1755-1315/107/1/012005

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